



发明专利证书

Certificate of Invention Patent

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I. INTRODUCTION

There is no doubt that the license fees of Standard Essential Patents (“SEPs”) can be priced by the judge’s judgment, as in *Huawei v. IDC* and *Microsoft v. Motorola Mobility*. On the one hand, it is difficult to get such pricing, determined by judicial adjudication, to be as accurate and fair as market pricing. While on the other hand, pricing based on the judgment is difficult implement.² What’s more, it consumes a considerable amount of judicial resources, so it shall not and will not be a mainstream way to settle disputes over SEP license fees. On the contrary, the main path to settle such disputes is to facilitate a negotiation between SEP holder and enforcer through fair and effective procedures. At present, the question is how to make the court’s judicial process more conducive to facilitating both parties to sit at the negotiating table. This article will conduct a brief game theory analysis on the injunction application and information disclosure in the negotiations over SEP license fees, and provide suggestions to improve the judicial process for SEP disputes.

II. FACTORS THAT RESTRICT NEGOTIATION: INJUNCTION APPLICATION AND INFORMATION DISCLOSURE

Taking into consideration contracting costs and business reputation, the SEP holder and the enforcer can reach an agreement on most business negotiations over SEP license fees, which will not cause disputes. Unfortunately, not all negotiations will reach an agreement, some disputes have to be settled through judicial process, and such disputes have shown an increasing trend in the world over the past two years. The reason for this is that the SEP license has the following special features that restrict the negotiation of SEP license fees:

¹ Deputy Chief Judge of Intellectual Property Tribunal of Shanghai High People’s Court. The author would like to thank Vanessa Yanhua Zhang, Amanda Jing Yang and Sam Sadden for their helpful comments.

² A judge’s pricing of the SEP license fees is actually difficult to be implemented because: (1) the market information on which the judgment is made has often changed when the judgment is made, and the price determined in the judgment may not fit the market situation at the time of the judgment; (2) If the judgment determines a fixed value for the price of the SEP license fees, both the Plaintiff and the Defendant may not want to be bound by the fixed value. However, if the judgment determines a range of variety for the price of the SEP license fees, which is equivalent to the failure of final determination, it is hard for the Plaintiff to apply for enforcement.

1. SEP lacks alternative rival patents based on the network effect and lock-in effect of the technical standards. An SEP holder has market advantage over an SEP enforcer and is unwilling to make a compromise;
2. Most patent holders have the obligation to license patents on FRAND (fair, reasonable and non-discriminatory) terms as required by the Standards Setting Organization (“SSO”), but how to define a FRAND license, neither SEP holder nor enforcer has a unified opinion;
3. As the SEP holder is encumbered by a FRAND licensing commitment, which makes it a controversial issue whether the SEP holder can require the enforcer to apply the injunctions in the judicial process as the ordinary patent holder, thus it cannot form clear restraints on the SEP enforcer;
4. Unlike the general mode of “first licensed and then enforced” for ordinary patents, SEP often adopts the mode of “first enforced and then licensed,” which means the enforcer will negotiate the license agreement with the patent holder only after the SEP has already been enforced. It may have different impacts toward the enforcer in different cases, such as the negotiation advantage caused by the “first enforce and then licensed” mode, or the negotiation disadvantage due to the fear of losing all prior investments and other sunk costs;
5. Due to lack of information disclosure, SEP holder and enforcer are not symmetrical with each other in terms of information. SEP holder knows very little about the enforcer’s production capacity, sales volume and profits, while the SEP enforcer is also not familiar with how the SEP holder issues a patent license to other enforcers, which makes it difficult for both parties to judge the price level of patent license subject to FRAND without the necessary information from both parties.

Among the above-mentioned factors which restrict the negotiation on SEP license fees, the SEP holder’s market force and the actual situation that the patent is “first enforced and then licensed” cannot be changed in the judicial process. In addition, it is not easy to determine the judgment standard of FRAND in the judicial process. Only the injunction application and information disclosure can have a more reasonable arrangement in the judicial process, and are the factors that will, more easily to definitely, restraint both the holder and the enforcer. At present, there are more discussions on the injunction application than on information disclosure. Since they are equally important, we will analyze them as follows.

III. GAME THEORY ANALYSIS FOR APPLYING INJUNCTION

Injunctions can be divided into temporary injunctions and permanent injunctions. Temporary injunctions are orders given by the court before or during the litigation to temporarily ban the Defendant from its production, sales and other suspected infringement conduct according to the Plaintiff’s application as the court considers that the Defendant’s conducts may constitute an infringement and will make it difficult to make up for the Plaintiff’s loss if the defendant’s conduct are not promptly terminated. Permanent injunctions are orders given by the court after the litigation hearing to permanently ban the Defendant from its production and sales according to the confirmed fact about the Plaintiff’s infringement. Both temporary injunctions and permanent injunctions are strongly binding on the patent enforcer. In contrast to permanent injunctions, temporary injunctions are less binding due to the temporality. Additionally, temporary injunctions may not be accepted or may be canceled if the Plaintiff provides security to the court.

There are only three possible arrangements regarding whether the temporary or permanent injunctions may apply to an SEP enforcer. First, under no circumstances can the injunctions apply, and the SEP holder can only claim that the enforcer should pay the license fees or compensate for damages; second, it applies to the same applicable injunction conditions as the ordinary patent (that is to say, on the basis of the application of the SEP holder, a temporary injunction can be issued in case of a preliminary finding of infringement, and a permanent injunction can be pronounced in case of final confirmation of infringement); and third, establishing the applicable injunction conditions different from the ordinary patent, SEP enforcer can apply the temporary and permanent injunctions only when all these special conditions are met. The three different arrangements may give different binding conditions for the negotiation between SEP holder and enforcer, resulting in different game results. As a result, these differences shall be taken into full account in terms of system design.

A. Game Theory Analysis under Different Applicable Injunction Circumstances

1. Game Where the Injunction Can Never Apply

If the SEP holder is deemed to have made a FRAND commitment, it means that once the patent is included in the standard pool, the holder cannot refuse the license and the holder can only negotiate with the enforcer subject to FRAND instead of seeking injunctive relief. In this case, there is little restriction on the negotiation for the enforcer in the short term, and the enforcer can refuse to negotiate to maximize its profit. In a longer period of time, that is, the litigation cycle, although the enforcer will eventually accept the price of the license fees determined by the court, the price of the license fees determined by the court shall comply with the FRAND terms, and theoretically it shall not be higher than the price negotiated between the enforcer and the holder. Therefore, it may not be binding on the enforcer in terms of the negotiation. In other words, the profit gained by the enforcer who refuses to negotiate but accepts the court judgment may not be less than that gained when the enforcer agrees to negotiate. Therefore, the best strategy for the enforcer under the circumstance that the injunction is not applicable, whether in the short or long term, is to refuse to negotiate, while the best strategy of the holder is to agree to negotiate. Therefore, it is difficult to achieve negotiation between the holder and the enforcer. Table 1 gives the strategy arrangement and the likely profit matrix for the holder and the enforcer under the circumstance that the holder can absolutely not seek the injunction, and the maximum profit value of each party is set to be 100.

Table 1. Game Model that the Injunction is Absolutely Not Applicable

| | | SEP Enforcer | |
|------------|---------------------|---------------------|--------------------|
| | | Refuse to negotiate | Agree to negotiate |
| SEP Holder | Refuse to negotiate | 0 , 100 | 0 , 100 |
| | Agree to negotiate | 0 , 100 | 60 , 80 |

It can be seen in Table 1 that there is no such equilibrium between the holder and the enforcer which is the best strategy for both parties. Therefore, it is difficult to facilitate negotiation between the holder and the enforcer in such a case, even if an agreement is reached, it would be relatively unfavorable to the holder. In addition, the patent holder's enthusiasm to incorporate the patent technology into the standard pool will be undoubtedly undermined. As a result, some excellent technologies will not be included in the standard pool, thereby reducing the overall level of the standard.

2. Game When the Injunctions Are Equally Applicable as the Ordinary Patents

If the SEP and the ordinary patents are applicable to the same injunction application conditions, which would mean that the SEP holder will have more advantages in negotiation than the ordinary patent holder, while the SEP enforcer will be subject to stronger constraints in negotiation. The reasons are as follows.

First, as for the temporary injunction, the holder of the ordinary patent can get the injunction only after he provides the preliminary proof of the Defendant's infringement, but he cannot always make it in the infringement litigation of the ordinary patent, therefore he cannot always get the temporary injunction. However, SEP is usually the patent that the Defendant cannot bypass. As a result, it is easy for the patent holder to prove the Defendant's infringement in the SEP infringement litigation, and thus to easily get the temporary injunction.

Second, for the permanent injunction, if the holder of the ordinary patent insists on asking the Defendant to terminate the infringing conduct, the court will order the Defendant to cease production and sales of the products with the Plaintiff's patent technology as long as the infringement is finally determined. For the ordinary patent, the Defendant may also find the alternative technology with which it may continue the production and sales after being sentenced to stop the infringement. But for the SEP, the enforcer cannot find the alternative technology with which to continue the production and sales after being sentenced to stop the infringement, and the previous equipment, materials, technical training and other sunk costs will come to naught. As a result, whether it is a temporary injunction or a permanent injunction, if it is applicable to the same application conditions as the ordinary patent, the SEP holder will have more advantages in ne-

gotiation than the ordinary patent holder, which will exacerbate the imbalance between the SEP holder and the enforcer. In this case, it may be easier for the holder and the enforcer to reach an agreement through negotiation because the enforcer is strongly bound by the negotiation, but the negotiation result may not be a fair one. Table 2 shows the strategies and the likely profit matrix for the holder and the enforcer under the circumstance of the same applicable injunction conditions as the ordinary patent.

Table 2. Game Model when the Injunctions are Equally Applicable as the Ordinary Patent

| | | SEP Enforcer | |
|------------|---------------------|---------------------|--------------------|
| | | Refuse to negotiate | Agree to negotiate |
| SEP Holder | Refuse to negotiate | 0 , -100 | 0 , -100 |
| | Agree to negotiate | 0 , -100 | 100 , 60 |

It can be seen that there is such a balance in Table 2 that both the SEP holder and the enforcer agree to negotiate and both parties are likely to reach an agreement, but such a negotiation result is likely to be unfair to the SEP enforcer. The adverse consequence is that the enforcer will reduce the implementation of the standard because it is vulnerable to unfair treatment, thus the standard cannot be fully used.

3. Game When Special Conditions are Applicable for SEP Injunctions

There is the third possible arrangement for SEP injunction, that is, to set the application conditions for SEP injunction, different from the ordinary patent. Of course the conditions will not be softer than those of the ordinary patent, as in that case it will further widen the gap between the SEP holder and the enforcer in terms of the negotiation position, making it more unfavorable and unfair to the enforcer. Therefore, we need to consider setting more stringent injunction application conditions than those of the ordinary patent to avoid strong negotiation constraints on the enforcer due to the loose application of the injunctions. Table 3 shows the strategies and the likely income matrix between the holder and the enforcer under the special injunction conditions set for SEP.

Table 3. Game Model when Special Conditions are Applicable for SEP Injunctions

| | | SEP Enforcer | |
|------------|---------------------|---------------------|--------------------|
| | | Refuse to negotiate | Agree to negotiate |
| SEP Holder | Refuse to negotiate | 0 , -100 | 0 , -100 |
| | Agree to negotiate | 0 , -100 | 90 , 70 |

Same as Table 2, there is a balance between the SEP holder and the enforcer in Table 3 where both parties agree to negotiate, except that a more stringent injunction application condition is particularly set for SEP and it will be unlikely that the holder can easily initiate an injunction. Therefore, the two parties may achieve relatively fair results under the relatively fair negotiation constraints.

To sum up the simple game theory analysis under the three different arrangements mentioned above: the absolute non-application of the injunctions will lead to an imbalance in the game between the SEP holder and the enforcer, which will be least favorable to negotiations and protection of the interests of the SEP holder, and thus undermine the patent holder's enthusiasm to incorporate the patent technology into the standard. The same injunction application conditions applicable to the ordinary patent will form stronger negotiation constraints on the SEP enforcer than those on the ordinary patent enforcer, and there are balanced strategies that can easily facilitate the negotiations, but can also easily lead to negotiation results unfavorable to the SEP enforcer, and thus affect the full implementation of the standard. In addition, the special injunction application conditions set for SEP also have balanced strategies that are likely to facilitate the negotiations and relatively easy to achieve the negotiation results which are comparatively fair to both the holder and enforcer. The results are conducive to promoting the standard to absorb excellent technologies, but also conducive to the implementation and application of the standard.

B. Suggestions on Setting SEP Injunction Application Conditions

From the legal practice of each country, the cautious attitude towards the application of SEP injunctions has become a more consistent trend, and some jurisdictions have even tried to set special conditions for the application of SEP injunctions. In the United States, the Supreme Court stated in the 2006 decision *eBay Inc. v. MercExchange* that it was not necessary to issue an injunction to prevent future infringement once the patent was infringed.³ In January 2013, the U.S. Department of Justice and the Patent and Trademark Office jointly issued the *Policy Statement on Remedies for Standards-Essential Patents Subjects to Voluntary F/RAND Commitments* to reflect a cautious attitude towards the issuance of the injunctions.⁴ In August 2013, on the ground of “public interest” reasons, the Executive Office of the President overturned the U.S. International Trade Commission’s authorization given to South Korea’s Samsung to implement an “exclusion order” towards Apple on some electronic equipment.⁵ In Europe, the European Commission established the “Safe Harbor Principle” in the antitrust investigation against Motorola and Samsung in April 2014,⁶ while the European Court of Justice made three injunction application conditions for the SEP enforcer in the patent infringement case of “*Huawei v. ZTE*.”⁷

The three conditions are: (1) Before the litigation, the Plaintiff shall first notify the Defendant in writing of the specific patent it infringed and the way of infringement; (2) If the Defendant expresses its willingness to come to an agreement with the Plaintiff on FRAND license terms, the Plaintiff shall provide the Defendant with a clear, written and easily accepted FRAND offer, including the calculation, method and specific rate of the patent license fees; (3) If the Defendant violates the principle of honesty and credibility and the commonly accepted business practice and fails to make a reasonable counter-offer or promise to the Plaintiff within a reasonable period, or if the local court or the arbitration body gives a ruling on the basis of the RAND principle, and the Defendant makes it clear that it is unwilling or unable to perform. In China, the Supreme People’s Court published the *Interpretation of Several Issues Concerning the Application of Law in the Trial of Infringement of Patent Disputes (II)*⁸ in March 2016, Article 24 of which provides that it shall not be sentenced to stop the act of infringement if the SEP holder fails to disclose to the Standard-Setting Organization its patent information, the SEP holder intentionally violates its obligations of the FRAND commitments, or the SEP enforcer make no obvious fault in the negotiations, the court cannot order the termination of the infringement, that is, the injunctions shall not be applied.

It seems that there are some differences between the United States, Europe and China in these legal practices. The United States did not explicitly set special injunction application conditions for SEP, but only invoked the basic principles about injunction application in the rule of equity and emphasized that the injunctions shall not be implemented in some cases, for instance, if the enforcer pays enough money compensation to cover the holder’s loss, or if the injunctions will harm the public interest. On the contrary, both Europe and China tried to set special injunction application conditions for SEP, and these conditions are basically the same with the core being that the SEP holder has faithfully fulfilled the obligations of the FRAND commitment, but the FRAND negotiation failed to proceed or come to an agreement due to the reasons of the enforcer. It should be mentioned that the practice of the United States can be used for reference for Europe and China, especially in terms of the injunction application for a Non-Practicing Entity (NPE). The fact is that NPEs themselves take no advantage of patent production and sales and will not compete with the patent enforcer. In addition, the NPE itself will not lose the market shares due to patent infringement and the money compensation is enough to make up for the NPE’s loss, therefore it is allowed to exclude the application of the injunctions. However, the United States still applies the same injunction application conditions to SEPs as

³ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

⁴ *Policy Statement of Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments*, United States Department of Justice and United States Patent & Trademark Office, January 8, 2013, available at: <https://www.justice.gov/sites/default/files/atr/legacy/2014/09/18/290994.pdf>.

⁵ Letter “RE: Disapproval of the U.S. International Trade Commission’s Determination in the Matter of Certain electronic Devices, Including Wireless Communication Devices, Portable Music and Data Processing Devices, and Table Computers, Investigation No. 337-TA-794”, Executive Office of the President of the United States Trade Representative, August 3, 2013, available at: https://ustr.gov/sites/default/files/08032013%20Letter_1.PDF.

⁶ Commission Decision of 29.04.2014, Case AT.39985 - Motorola - Enforcement of GPRS Standard Essential Patents, available at: http://ec.europa.eu/competition/antitrust/cases/dec_docs/39985/39985_928_16.pdf.

⁷ *Huawei Technologies Co. Ltd. v. ZTE Corp., ZTE Deutschland GmbH*, Judgment of the Court, July 16, 2015, available at: <http://curia.europa.eu/juris/document/document.jsf?docid=165911&doclang=EN>.

⁸ *Interpretation of the Supreme People’s Court of Several Issues Concerning the Application of Law in the Trial of Infringement of Patent Disputes (II)*, Law Interpretation No.1 (2016), the Supreme People’s Court, March 21, 2016, available at: http://www.sipo.gov.cn/zcfg/ffg/zl/sfjs/201603/t20160322_1253917.html.

to ordinary patents. In contrast, Europe and China have tried to set special injunction application conditions for SEP, which deserve more attention both in facilitating negotiations and in promoting fairness. Europe and China, in fact, take the fulfillment of the FRAND license obligations as the basis for the SEP holder to advocate the patent rights including the injunctive relief. Regardless of the nature of the obligations of the FRAND commitment in law, it is indeed the key to make SEP different from the ordinary patent in terms of the applicable injunction conditions. In general, the SEP injunction application conditions identified by the European Court of Justice in *Huawei v. ZTE* and the regulations on SEP injunction application in the judicial interpretation of the Supreme People's Court of China are more appropriate, but some conditions still remain vague, which are not conducive to forming clear negotiation constraints. In addition, it is not obvious to give consideration to the constraints on the holder and the enforcer.

For the current legal practices, one possible improvement is to strengthen and clarify some conditions in two aspects where the SEP holder seeks an injunction and the SEP enforcer opposes the injunction, and these conditions bind the parties to facilitate negotiations. As the preliminary suggestions mentioned in Table 4, these suggestions are more stringent than those in *Huawei v. ZTE* which seek injunctions for the SEP holder, but at the same time, these suggestions also set more stringent conditions for the SEP enforcer to oppose the injunctions, and also set more stringent conditions for the court to make injunction decisions accordingly. Moreover, these conditions also try to avoid some subjective conditions such as fault judgment.

Table 4. The Conditions for the SEP Holder to Seek the Injunctions and the SEP Enforcer to Oppose the Injunctions

| | |
|--|---|
| <p>Conditions for the SEP holder to seek the injunction</p> | <ol style="list-style-type: none"> 1. Disclose its patent information in SSO. 2. Before the litigation, the SEP holder shall notify the enforcer of the infringement conduct, the patent infringed and the way of infringement in writing. 3. Make a clear FRAND license offer before the litigation, including the specific price conditions and calculation basis. 4. Within a reasonable time period (such as two to three months) waited before the litigation, the enforcer fails to reply to the FRAND license offer or make a reasonable counteroffer. |
| <p>Conditions for the SEP enforcer to oppose the injunctions</p> | <ol style="list-style-type: none"> 1. Acknowledge the FRAND license offer given by the SEP holder or make a reasonable counteroffer within a reasonable time period. 2. Refer to the highest market license fees of the same patent in the same corresponding period (under the same patent constraint) with regard to the requests for temporary injunctions, and deposit the license fees to the court's escrow account according to the sales volume. |
| <p>Conditions for the court ruling to implement the injunctions</p> | <ol style="list-style-type: none"> 1. The conduct of infringement accused by the SEP holder is established. 2. For the temporary injunctions, be sure to satisfy the conditions for the SEP holder to seek the injunctions as mentioned in this table, other than the conditions for the SEP enforcer to oppose the injunctions. 3. For the permanent injunctions, be sure to have at least a substantial round of negotiations with the host of the court before the injunction decisions are made. |

IV. GAME THEORY ANALYSIS FOR INFORMATION DISCLOSURE

To set the special conditions for SEP injunction application only makes clear and strengthens the constraints on the negotiation between the SEP holder and the enforcer, but the biggest obstacle to be overcome in the negotiation is information asymmetry, which needs to be resolved through information disclosure.

A. Different Game Results with or without the Obligation of Information Disclosure

When negotiating based on FRAND conditions and determining whether the license fees are subject to the FRAND level, the SEP holder and the enforcer will definitely be required to disclose some trade secrets. Therefore, it is a very controversial issue whether to set the parties a mandatory obligation of information disclosure in the litigation of SEP license fees. Setting a mandatory obligation of information disclosure for the SEP holder will render the SEP holder reluctant to proceed with litigation and negotiations, thereby reducing the patent technology incorporated into the technical standards due to the lack of effective protection of patents. However, it will form totally different negotiation constraints on the SEP holder and the enforcer with or without the obligation of information disclosure, thereby giving rise to the completely different negotiation results.

1. Game under the Circumstance without the Obligation of Information Disclosure

Both parties are not obliged to disclose the information under the circumstance without the obligation of information disclosure, and one party will decide whether to disclose according to the other party's decision. In this dynamic game, if one party discloses the information, the other party may disclose or may not disclose the information; but if one party does not disclose the information, the other party will certainly not disclose the information. Figure 1 and Figure 2 separately give the game tree under the two-stage game circumstance (that is, there is no repeated game situation) where the other party makes the follow-up decision after the SEP holder or the enforcer makes the decision.

Figure 1. Circumstance where the SEP Holder Makes the Decision First

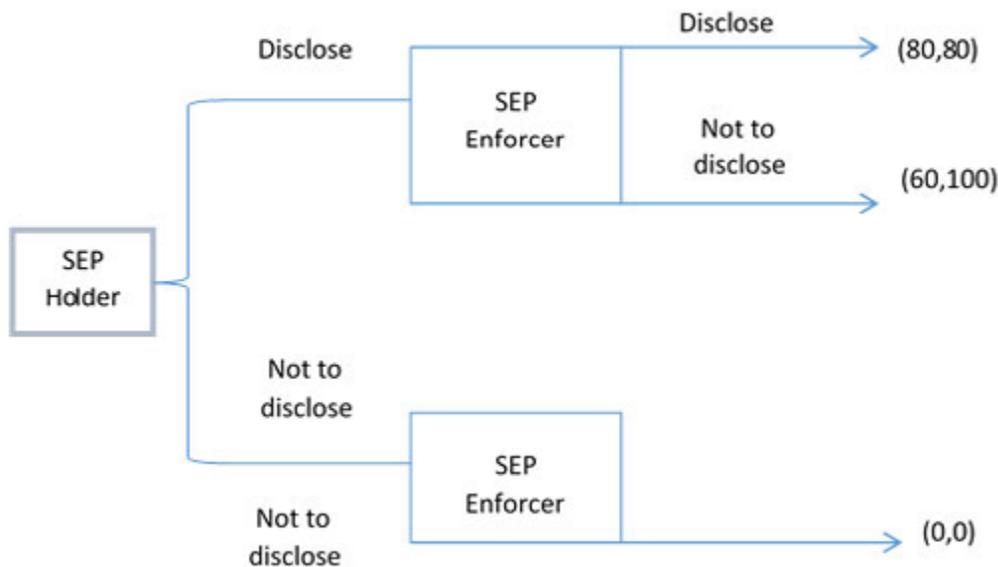
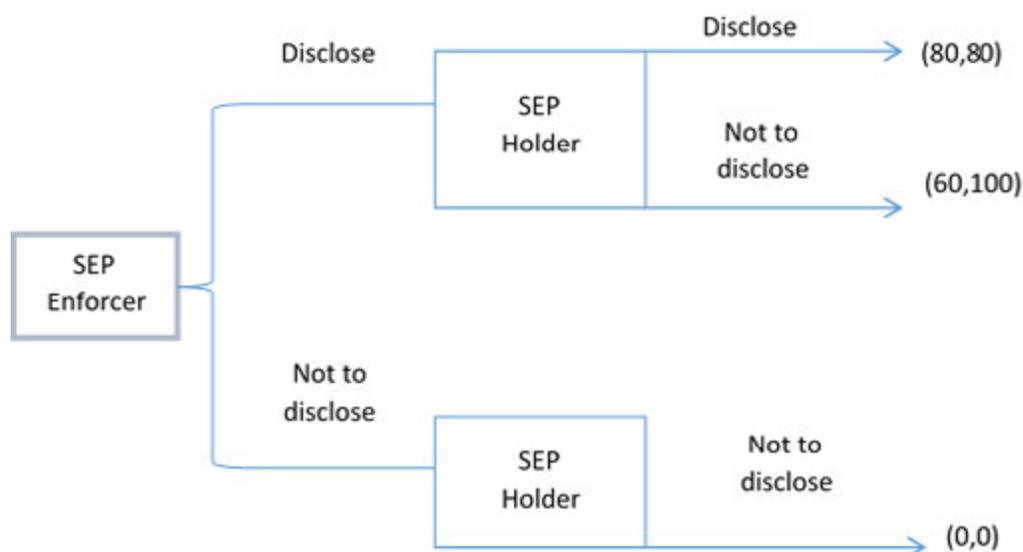


Figure 2. Circumstance where the SEP Enforcer Makes the Decision First



In the absence of the obligation of information disclosure, if the one who makes the decision first chooses to disclose, the one who makes the decision later may choose the strategy of (disclose, disclose) by considering reputation and long-term cooperation, which may produce a result mutually beneficial to both parties. But if it is a one-time deal (that is, there is no repeated game), the one who makes the decision later may choose not to disclose due to the optimal benefit strategy (disclose, not to disclose), which will maximize its own benefit but minimize the other party's benefit. If the one who makes the decision first chooses not to disclose, the one who makes the decision later will also choose not to disclose, and the negotiation will then come to a deadlock.

2. Game under the Circumstance with the Obligation of Information Disclosure

And then let's take a look at the game under the circumstance with the obligation of information disclosure. If the judge is allowed to force both parties to disclose relevant information under certain conditions, and the parties will bear the penalties and other economic consequences if they fail to disclose the information, it can be seen that the negotiation game between the SEP holder and the enforcer will be a static game about complete information. In addition, Table 5 shows the strategies and the profit matrix for the game between the parties under the circumstance with the obligation of information disclosure.

Table 5. Game Model with the Obligation of Information Disclosure

| | | SEP Enforcer | |
|------------|-----------------|--------------|-----------------|
| | | Disclose | Not to disclose |
| SEP Holder | Disclose | 80 , 80 | 100 , -100 |
| | Not to disclose | -100 , 100 | 100 , -100 |

It can be seen that there is a unique Nash equilibrium (disclose, disclose) in Table 5, which will be very beneficial for both parties to reach an agreement, indicating that institutional arrangement with the obligation of information disclosure is the most favorable institutional arrangement for facilitating both parties to conclude an agreement.

B. Suggestions on how to Set the Obligation of Disclosure

Based on the aforementioned game analysis, there is no doubt that the circumstance with the obligation of information disclosure is far more conducive to negotiate between both parties than the circumstance without the obligation of information disclosure. We need to deal with the following questions: First, should we set the mandatory conditions for information disclosure? Second, how to balance the inconsistency between information disclosure and protection of trade secrets in case of mandatory information disclosure.

With regard to the first question, since there is still the possibility of the strategy of (disclose, disclose) under the circumstance without mandatory information disclosure, as mentioned above, it is not necessary to initiate mandatory information disclosure in SEP litigation, but rather to voluntarily disclose the information by both parties. Only when one party or both parties are reluctant to disclose the information or if the information disclosed is not sufficient, the judge may make a decision to force one party or both parties to disclose the relevant information on the basis of one party's application or by self-decision. The parties involved may also raise an objection to the judge's decision of mandatory information disclosure. For example, the information disclosure is not necessary for settling the disputes, or the information to be disclosed at the request of the judge goes beyond the need to resolve the dispute and other circumstances. The judge shall make a written resolution to the parties' written objection. In fact, it is also foreseeable that as long as the judge is given the right to compel both parties to disclose relevant information under certain conditions as described in Table 5, it may constitute a constraint. In addition, the parties may be inclined to voluntarily disclose the information in the litigation before the judge forces both parties to disclose information, which can prevent the judge's decision from expanding the scope of information disclosure.

With regard to the second question, that is, how to protect the trade secret while being forced to disclose business information? In fact, the court has accumulated a wealth of experience in handling contract disputes, corporate disputes, intellectual property disputes, labor disputes and so on and even criminal cases, which can be completely used as reference for FRAND negotiations in SEP litigation. For example, the importance level of the information to the parties can be used to determine the scope of the object of disclosure: (1) top trade secrets can only be disclosed to the judge and the experts authorized by the judge; (2) sub-important trade secrets can only be disclosed to both parties' lawyers, other than the parties; (3) ordinary trade secrets can be disclosed between the parties and the parties' lawyers, but under the condition of secrecy measures such as signing of confidentiality commitment, prohibition of photocopy, prohibition of excerpt, limited reading spot, and so on. To sum up, the judge shall be given the right to compel both parties to disclose relevant information in SEP litigation to facilitate the negotiation between the SEP holder and the enforcer. It does not mean to initiate the mandatory disclosure of information in the litigation, but the judge shall have the right to force one party or both parties to disclose relevant information if the negotiation cannot be achieved due to no disclosure of relevant information by the parties. Imagine that even if the SEP holder and the enforcer still cannot reach an agreement after disclosing the relevant information, the judge will be more likely to make a more accurate judgment of the license fees with the information.

V. CONCLUSION

The injunction application and information disclosure are two important factors in restricting the negotiation over SEP license fees in litigation. Based on the results of game theory analysis, it will be most favorable to facilitate the negotiation to set the special injunction application conditions for SEP among the three arrangements when the injunction can never apply, the injunctions are equally applicable as the ordinary patents, and special conditions are applicable for SEP injunctions. When setting the injunction application conditions, we can set some more stringent conditions than those of the ordinary patents from the two aspects that the SEP holder seeks the injunctions and the SEP enforcer opposes the injunctions. At the same time, these conditions shall be objective and clear to strengthen the constraints on the negotiation between the parties. Similarly from the results of game theory analysis, Nash equilibrium can be achieved in disclosure of information by the parties under the circumstance of setting the obligation of information disclosure for the parties with regard to whether or not to implement the mandatory information disclosure toward the SEP holder and the enforcer, which is far more favorable to facilitating the negotiation between the parties than not setting the obligation of information disclosure. As a result, it is recommended to give the judge the right to compel the parties to disclose the relevant information under certain conditions. Of course, it should be emphasized that it is not necessary to make the parties disclose the information to settle the disputes. The content of the information disclosed is strictly limited by the scope required for the settlement of the disputes, and different secrecy measures shall be taken according to the importance of the information in the process of information disclosure.